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THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keller et al.

Appln. No.: 09/842,346

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Title: SIMPLIFIED METHOD AND
APPARATUS FOR PROGRAMMING
A UNIVERSAL TRANSMITTER

Group Art

Unit: 2635

Examiner: Vernal U. Brown

CERTIFICATE OF MAILING

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APPEAL BRIEF

Pursuant to 37 C.F.R. §1.192, the Applicants hereby respectfully submit the following Brief in support of their appeal. Pursuant to 37 C.F.R. §1.192(a), this Brief is being filed in triplicate.

(1) Real Party in Interest

The real party in interest is The Chamberlain Group, Inc., a Connecticut corporation having a primary place of business in Elmhurst, Illinois.

(2) Related Appeals and Interferences

There are no other appeals or interferences known to the Appellants, the Appellants' legal representative, or assignee that will directly affect, or be directly affected or have a bearing on the Board's decision in the pending appeal.

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(3) Status of Claims

Claims 1 and 3-21, which constitute the subject matter of this appeal, stand rejected. Claim 2 has been canceled.

(4) Status of Amendments

No amendments have been submitted subsequent to the Final Rejection in this application.

(5) Summary of Claimed Subject Matter

The Applicants' system provides approaches for programming a universal transmitter that is used to move barriers (e.g., doors) in a moveable barrier operator system. The illustration shown below is FIG. 2 from the application. As can be seen in that illustration, a transmitter 30 includes signal configuration input (switches) 52, user input (transmit initiation keys) 50, a controller 54, a memory 56, and transmitter circuitry 58.

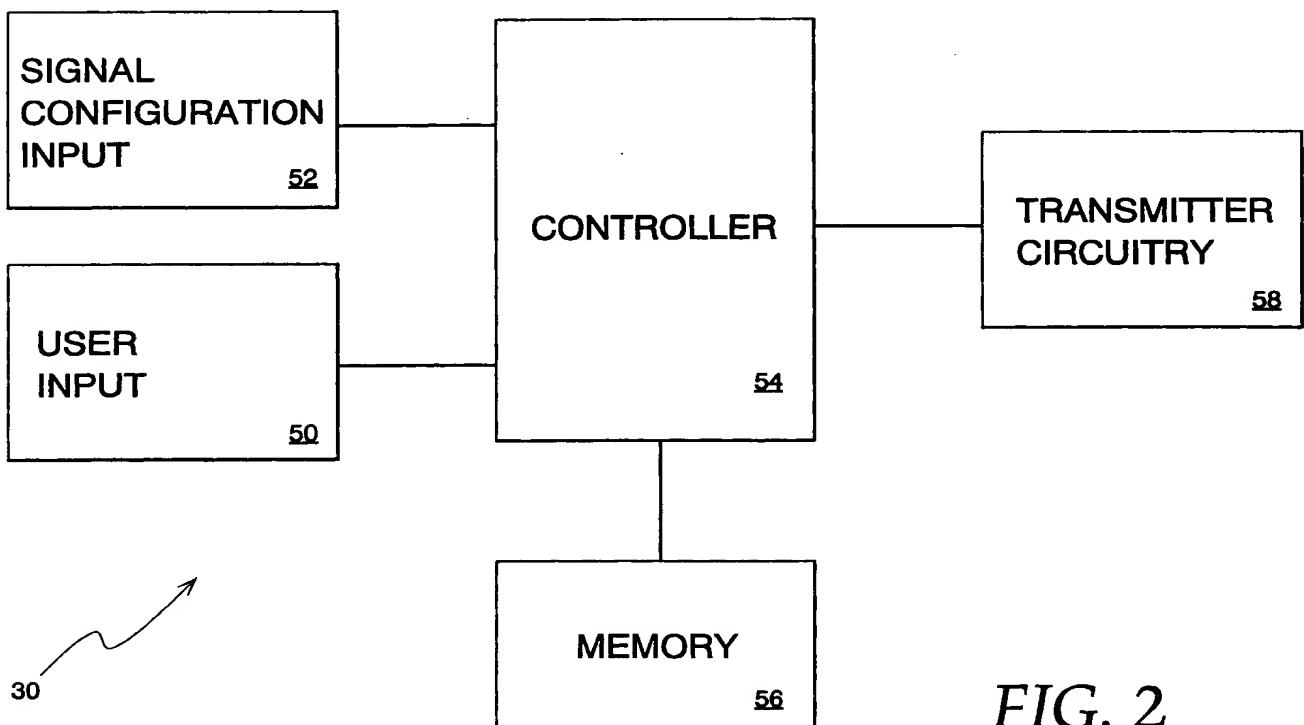


FIG. 2

In the Applicants' system, a signal is transmitted from the transmitter 30 and used to actuate a barrier operator. The signal has a particular configuration. For example, the signal may be transmitted at a particular frequency or use a particular modulation scheme. In order to select this signal configuration, the signal configuration switches 52 are manually set by the user. In one example, the signal configuration switches 52 may comprise a plurality of multi-position switches that allow the user to manually select a configuration for a signal to be transmitted. By placing the switches in particular settings and operating in a learn mode, a particular code and configuration may be associated with one of the transmit initiation keys. (See, for example, page 9, lines 14-22 of the specification). The transmit initiation keys 50 can later be used to enable transmission of a code earlier defined by the configuration switches 52. The Applicants' system is not limited to setting only one signal configuration for the transmitter 30. In this regard, each of the plurality of transmit initiation keys 50 may be associated with a particular configuration. During an operate mode, when a particular transmit initiation key is pressed, the code previously associated with that transmit initiation key (i.e., set by some combination of the signal configuration switches 52) is transmitted. (Specification, page 10, lines 7-26).

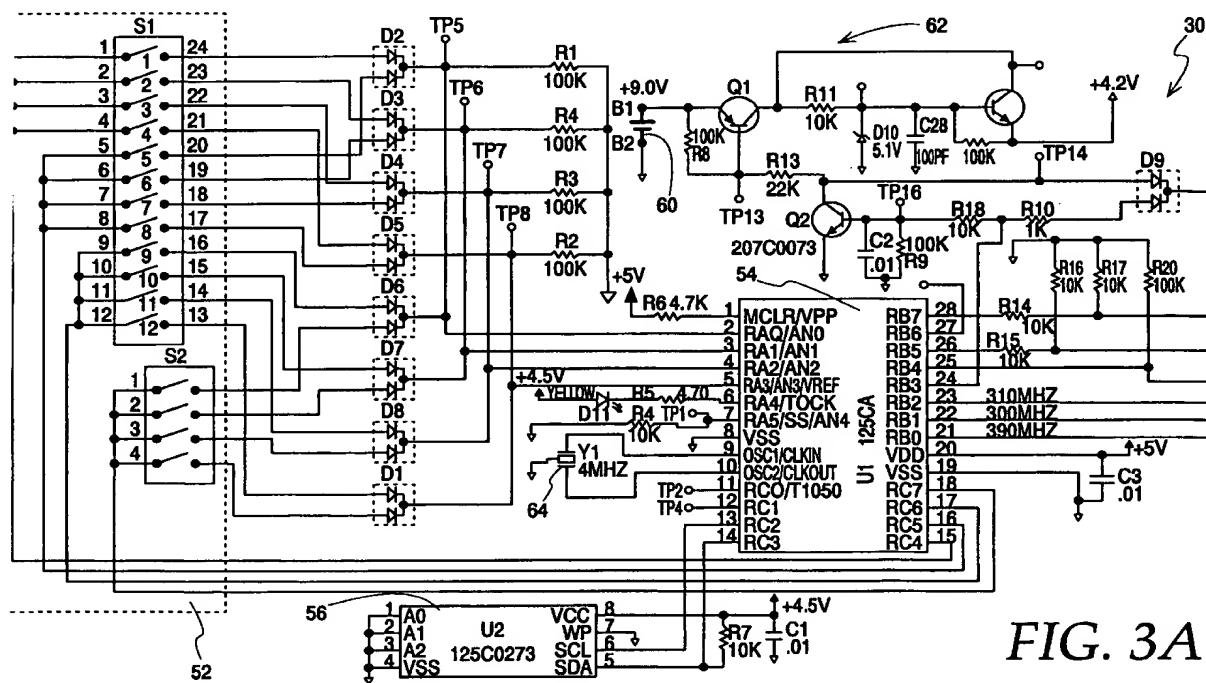
In one specific example of the operation of the Applicants' system, learn and non-learn (operate) modes are used. The controller 54 determines whether the transmitter has been placed into a learn mode. When in a learn mode, a user sets the signal configuration switches 52 in a selected pattern and presses a selected one of the transmit initiation keys 50. The controller 54 reads the settings of the signal configuration switches 52 and stores the settings (e.g., as a code) in the memory 56 for future recall. The memory location where the signal configuration settings are stored is associated with the selected transmit initiation key 50 that was pressed (see specification, page 12, lines 18-27).

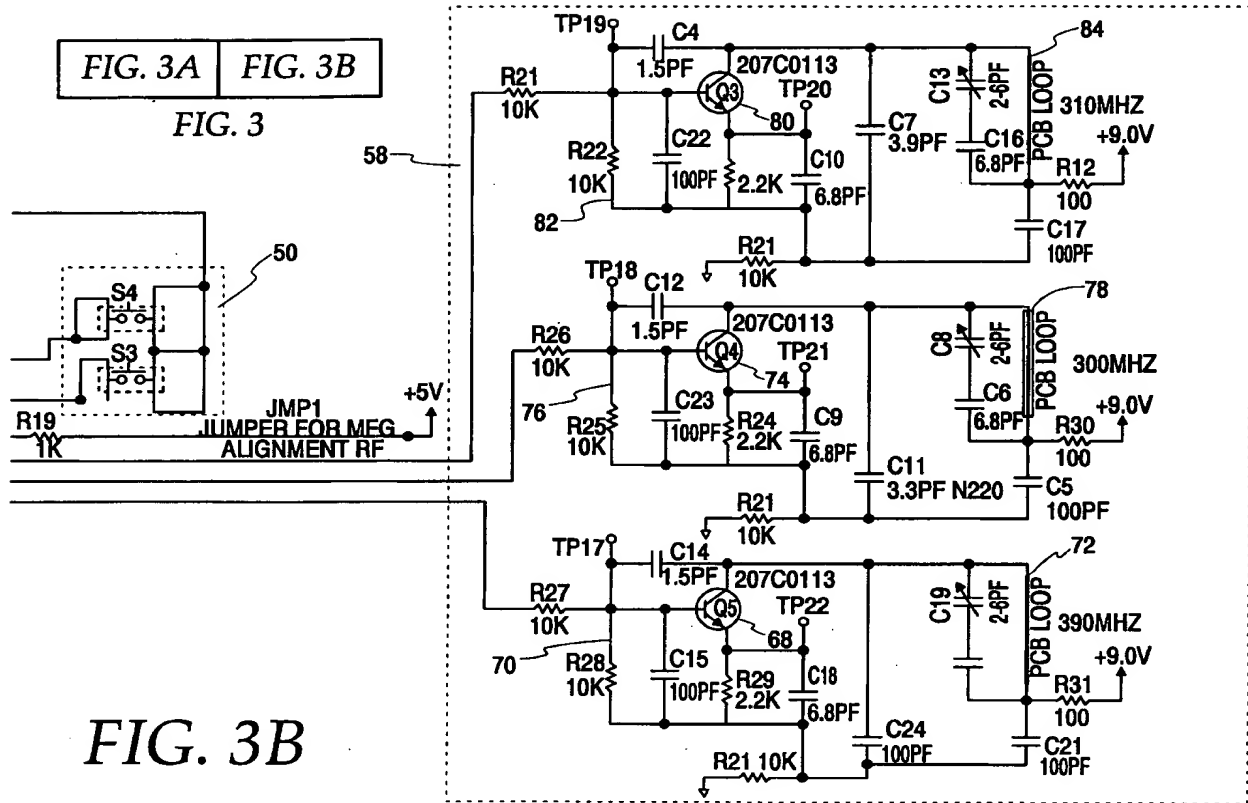
On the other hand, when the controller 54 determines that the transmitter 30 is in operate mode, and a transmit initiation key 50 is pressed, the controller 54 retrieves the signal configuration (e.g., the code) stored at the location on the memory 56 that is associated with the depressed transmit initiation key 50. The controller 54 then interprets the signal configuration (e.g., the code) retrieved from the location in the memory 56 and outputs the configuration (e.g., the code) at the

appropriate modulation or using any other conditions defined by the configuration (see page 14, lines 9-20 of the specification).

Consequently, in Applicants' system, two separate and distinct type of switches are provided: (1) signal configuration switches (element 52) that define a signal configuration, and (2) transmit initiation keys that are associated with a configuration that has already been defined by the signal configuration switches 52. In so doing, a user can transmit a configuration (e.g., a particular code) with the touch of a single transmit initiation key.

Another specific example of Applicants' approaches is illustrated below with respect to FIGs. 3a and 3b from the application as originally filed. These figures are reproduced below for the convenience of the reader. It can be seen in this example that the signal configuration switches 52 comprise DIP switch groups S1 and S2. In particular, switches groups S1 and S2 provide sixteen switches with which the user is able to identify a signal configuration (page 11, lines 7-10 of specification) .





A two button transmitter is provided in which one signal configuration can be stored and associated with a transmit initiation key S3 and another signal configuration setting can be stored and associated with a transmit initiation key S4. In other examples, additional transmit initiation keys may be provided to allow for the storing of the additional settings (page 13, lines 16-20 of specification).

As with the system of FIG. 3, the signal configuration switches S1 and S2 perform functions entirely different from the transmit initiation keys S3 and S4. More specifically, the DIP switches in groups S1 and S2 are used to set signal configurations (e.g., codes), which configurations are stored during learn mode (see specification, page 12, lines 18 -27). One such configuration can be associated with the key S3 and another configuration associated with the key S4. A user wishing to

recall a particular configuration needs only push the key S3 or S4 to recall the configuration associated with the particular switch and transmit the associated code (see page 14, lines 17-20).

(6) Grounds of Objection to be Reviewed on Appeal

- A. Whether U.S. Patent No. 6,249,673 to Tsui anticipates claims 1, 4-5, and 8-9 under 35 U.S.C. §102(e)
- B. Whether claim 3 is obvious over the Tsui '673 patent in view of U.S. Patent No. 6,556,813 to Tsui under 35 U.S.C. §103(a); whether claim 6 is obvious over the Tsui '673 patent under 35 U.S.C. §103(a); and whether claim 7 is obvious over the Tsui '673 patent in view of U.S. Patent No. 5,552,641 to Fischer under 35 U.S.C. §103(a)
- C. Whether claim 10 is obvious under 35 U.S.C. §103(a) over the Tsui '673 patent in view of the Tsui '873 patent and whether claims 11-15 are obvious over the Tsui '673 patent in view of the Tsui '813 patent in further view of U.S. Patent No. 6,366,198 to Allen under 35 U.S.C. §103(a)
- D. Whether claims 16-19 are obvious over the Tsui '673 patent under 35 U.S.C. §103(a) and whether claims 20-21 are obvious over the Tsui '673 patent in view of U.S. Patent No. 4,750,118 to Heitschel under 35 U.S.C. §103(a)

(7) Argument

A. The Tsui '673 Reference Does Not Anticipate Claims 1, 4-5, and 8-9

1. The Tsui '673 Reference Does Not Teach the Two Different Types of Switches that are Recited in claims 1, 4-5, and 8-9

Claim 1 recites a plurality of user manipulable signal configuration switches that define signal configuration settings. Claims 1, 4-5, and 8-9 also specifically recite that the signal configuration switches define signal configuration settings including a code to be transmitted.

To argue anticipation of these features, the Examiner asserted that the switches S_1 - S_N of the Tsui '673 reference are both signal configuration switches and transmit initiation keys. The Applicants respectfully submit that this assertion is incorrect since Tsui teaches the use of a single type of switch. More specifically, as shown in FIG. 2 of Tsui (reproduced here for the convenience of the reader), Tsui shows the switches S_1 - S_N do not define signal configuration settings including a code to be transmitted for storage in memory. Instead, they identify which data to read from the memory to transmit a security code.

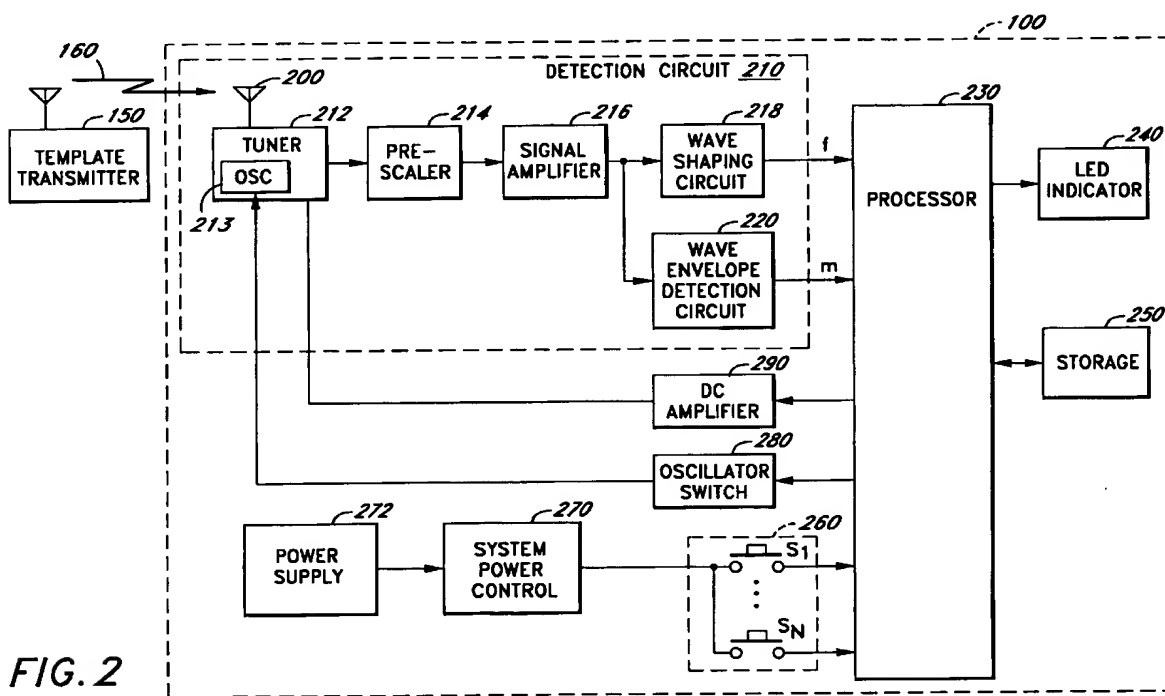


FIG. 2

More specifically, Tsui '673 describes a system where a template remote control transmitter 150 is placed in proximity to a universal transmitter 100. Tsui '673 patent, col. 6, lines 1-22. The template remote control transmitter 150 emits a signal 160. *Id.* A set of parameters associated with the signal is automatically determined by the universal transmitter 100. *Id.* The frequency and modulation pattern may be determined. *Id.* In particular, the frequency and other defining

characteristics are determined by extracting the relevant information directly from the received signal using a complicated RF processing apparatus. Tsui '673 reference, col. 4, lines 24-60.

Each set of patterns may be stored in memory and associated with a switch S_1 - S_N . *Id.* Each set thereby associated may be retrieved by pressing the appropriate switch. For instance, a parameter set having a signal with a first frequency and first modulation pattern may be associated with switch S_1 . Another parameter set having a signal with a second frequency and second modulation pattern may be associated with switch S_2 . After becoming associated with the switch S_1 or S_2 , the parameters can be recalled. For instance, pressing switch S_1 retrieves the first parameter set and pressing switch S_2 retrieves the second parameter set.

Consequently, the switches S_1 - S_N perform the single function in the Tsui '673 system of being associated with and recalling a particular parameter set. The switches S_1 - S_N do not define or affect in any way the configuration of the signal being transmitted as asserted by the Examiner. In view of the foregoing, the Applicants assert that the Tsui '673 reference does not include a plurality of signal configuration switches which define configuration settings including a code to be transmitted.

Claim 1 also recites a controller that stores in memory the signal configurations defined by the signal configuration switches. No such controller is taught or suggested by the Tsui '673 reference.

In fact, as mentioned above, a complicated RF processing arrangement is used to extract the frequency of the signal. In particular, and as shown in FIG. 2 of the Tsui '673 reference, this circuit includes an antenna 200, tuner 212, pre-scalar 214, amplifier 216, wave shaping circuit 218, and wave envelope detection circuit 220. Tsui '673 reference, col. 4, lines 24-60. These elements (along with the processor 230) work to extract the frequency of the signal 160 received at the antenna 200. Consequently, although the Tsui '673 system does store data identifying frequency, format and code information, the data is derived directly from a signal 160 that is received by the template transmitter 100 (and extracted using this complicated RF receiver and code detection arrangement).

For all these reasons, the Tsui '673 reference does not disclose, teach or suggest the use of signal configuration switches or a controller that stores signal configuration switch information in memory. The Applicant respectfully requests that claims 1, 4-5, and 8-9 be passed to allowance.

2. The Tsui '673 Reference Does Not Teach the Use of Storing Second Codes as Recited in Claims 8 and 9

The Applicant also asserts that claims 8 and 9 are allowable over the Tsui '673 reference for an additional reason. More specifically, claims 8 and 9 also include the steps of setting the signal configuration switches to a second set of positions defining a second configuration signal including a second code and storing the second signal configuration switch readings in a second memory position. The second memory position is different than the first memory position.

In contrast, there is also no suggestion or teaching in the Tsui '673 reference of resetting signal configuration switches to provide a second configuration for storage in memory. Consequently, the Applicant asserts that claims 8 and 9 are allowable and asks that for this additional reason, claims 8 and 9 be passed to allowance.

B. Claim 3, 6, and 7 are not Obvious over the Tsui '673 Reference Alone or in Combination with the other Cited References

Claims 3, 6, and 7 depend upon claim 1 and stand rejected. As discussed above with respect to claim 1, the cited Tsui '673 reference lack the teaching of the signal configuration switches that are recited in claims 3, 6, and 7. As the Tsui '673 patent and other references are utterly devoid of the teaching of this element, the Applicant respectfully asserts that the Tsui '673 reference alone or in combination with the other references does not render claims 3, 6, and 7 obvious.

Claims 3, 6, and 7 ultimately depend upon claim 1, which has been shown to be allowable above. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, the Applicants reserve the right to present further arguments in the future with

regard to these dependent claims if independent claim 1 is found to be unpatentable. Therefore, it is respectfully requested that claims 3, 6, and 7 be allowed to issuance.

C. Claims 10-16 are not Obvious over the Tsui ‘673/Tsui ‘873 Combination or the Tsui ‘673/ Tsui ‘813/ Allen ‘198 Combination

1. The Motivation for Combining the Cited References is Lacking

Claim 10 stands rejected as obvious under 35 U.S.C. §103 as unpatentable over the Tsui ‘673 reference in view of U.S. Patent 6,556,813 to Tsui (“the Tsui ‘813 patent”).

As stated in the MPEP:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. MPEP § 2142

The Applicant asserts that the references include no suggestion or motivation for combination and, in fact, they teach away from such combination. More specifically, Tsui teaches that his automatic system is intended to replace prior manual setting systems, such as the Tsui ‘813 system. Tsui ‘673 patent, column 1, line 66 through column 2, line 7. In other words, the Tsui ‘673 reference teaches away from a system where signal configuration switches are manually set (e.g., Applicant’s system). Thus, not only is there no motivation to combine in the references, they teach away from such combination and claim 10 is not obvious over the proposed combination for this reason.

2. Even if Properly Combined, The Two Types of Claimed Switches are Missing from any of the Proposed Combinations

The references, even if combined, do not teach or suggest all of the limitations of claim 10. As mentioned above, none of the references alone or in combination teach or suggest the step of storing a first signal configuration defined by multi-position signal configuration switches into a first memory location and the step of storing a second signal configuration defined by the same multi-position signal configuration switches into a second memory location. At most, these references teach only that certain configurations can be associated with a particular push button, and never mention or suggest using signal configuration switches to actually set the configurations. In other words, and as already mentioned, the cited references do not teach the use of a signal configuration switch as recited in claim 10. Consequently, claim 10 is allowable over the prior art for this additional reason.

Claims 11-15 also ultimately depend upon claim 10, which has been shown to be allowable above. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, and again as previously mentioned, the Applicants reserve the right to present further arguments in the future with regard to these dependent claims if independent claim 10 is found to be unpatentable. In view of the foregoing, the Applicants assert that claim 10 and claims 11-15 which depend therefrom are allowable.

D. Claims 16-21 are Not Obvious over the Tsui '673 Reference or the Tsui '673/ Heitschel '118 Combination

Claim 16 stands rejected under 35 U.S.C. §103(a) as obvious in view of the Tsui '673 patent. Claim 16 includes the steps of setting configuration switches to define a code signal configuration including a code to be transmitted, reading the code configuration from the signal configuration switches and storing the configuration so read in memory. The Tsui '673 reference does not include signal configuration switches defining a code to be learned as included in the claim, as discussed throughout this Appeal Brief. Accordingly, it cannot read them and store a configuration signal they represent. Thus, the Tsui '673 Reference does not teach or suggest a limitation recited in the claim 16 and accordingly, no *prima facie* case of obviousness is established.

Claims 17-21 also ultimately depend upon claim 16, which has been shown to be allowable above, and therefore, these claims are also allowable. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, the Applicants reserve the right to present further arguments in the future with regard to these dependent claims if independent claim 16 is found to be unpatentable. In view of the foregoing, applicant asserts that claim 16 and claims 17-21 which depend therefrom are allowable.

(8) Claims Appendix

1. (Previously presented) A transmitter for transmitting security codes at a plurality of modulations and frequencies comprising:
 - a plurality user manipulatable signal configuration switches which are adjusted by an operator to define signal configuration settings for transmitter signals, the signal configuration settings comprising at least a code to be transmitted by the transmitter;
 - a plurality of user manipulatable transmit initiation keys;
 - a controller responsive to the signal configuration switches during a learn mode for storing the signal configurations defined by the signal configuration switches in a memory location in association with selected ones of the user manipulatable transmit initiation keys;
 - apparatus responsive to user interaction with each transmit initiation key during an operate mode for retrieving the signal configuration stored in association therewith; and
 - transmitter circuitry for transmitting the retrieved signal configuration received from the controller at a predetermined frequency.
2. (Canceled)
3. (Previously presented) A transmitter according to claim 1, wherein the signal configuration switches comprise:
 - a multi-position switch for defining a type of transmitter that is to be emulated; and

a multi-position switch for defining a code to be transmitted by the transmitter.

4. (Previously presented) A transmitter according to claim 1, wherein the transmit initiation keys comprise:

a first switch identifying to the controller the location of a first signal configuration to be retrieved and transmitted; an

a second switch identifying to the controller the location of a second signal configuration to be retrieved and transmitted.

5. (Original) A transmitter according to claim 1, wherein the transmitter circuitry comprises:

a single transmitter circuit for selectively transmitting a signal at one of a plurality of different frequencies.

6. (Original) A transmitter according to claim 5, wherein the single transmitter circuit further comprises a transmitter circuit selectively operable at frequencies of 300 MHZ, 310 MHZ and 390 MHZ.

7. (Previously presented) A transmitter according to claim 1, wherein the transmitter circuitry comprises:

a first transmitter circuit for transmitting at a first predetermined frequency; and

a second transmitter circuit for transmitting at a second predetermined frequency.

8. (Previously presented) A method of programming a universal transmitter comprising a plurality of user manipulable signal configuration switches, the method comprising:

setting the plurality of signal configuration switches to a first set of positions

defining a first signal configuration including a first code to be transmitted by the transmitter;

storing the first signal configuration defined by the signal configuration switches into a first memory location;

setting the plurality of signal configuration switches to a second set of positions
defining a second signal configuration including a second code to be transmitted by the transmitter;
storing the second signal configuration defined by the signal configuration switches
into a second memory location;
associating one of a plurality of transmit switches with each stored signal
configuration; and
detecting user interaction with one of the plurality of transmit switches and
transmitting the stored signal configuration associated therewith.

9. (Previously presented) A method of programming a transmitter comprising:
setting a signal configuration switch to a first set of positions defining a first signal
configuration including a first code to be transmitted by the transmitter;
selecting one of a plurality of transmit switches with which the first signal
configuration is to be associated;
storing the first signal configuration into a first memory location;
setting the signal configuration switch input to a second set of positions defining a
second signal configuration including a second code to be transmitted by the transmitter;
selecting one of the plurality of transmit switches with which the second signal
configuration is to be associated; and
storing the second selected signal configuration into a second memory location.

10. (Previously presented) A method of programming a transmitter including a plurality
of multi-position signal configuration switches comprising:
setting the multi-position switches to a first set of positions defining a first signal
configuration including a first code to be transmitted by the transmitter;
selecting one of a plurality of transmit switches during a first learn mode operation
with which the first signal configuration is to be associated;
storing the first signal configuration into a first memory location;

setting the multi-position switches to a second set of positions defining to a second signal configuration including a second code to be transmitted by the transmitter;

selecting one of a plurality of transmit switches during a second learn mode operation with which the second signal configuration is to be associated; and

storing the second signal configuration into a second memory location.

11. (Previously presented) A method according to claim 10, comprising:
depressing a predetermined transmit switch for a predetermined period of time in order to place the transmitter into a learn mode.
12. (Previously presented) A method according to claim 10, comprising:
identifying from the multi-position switch settings a type of transmitter to be emulated.
13. (Previously presented) A method according to claim 10, comprising:
identifying from the multi-position switch settings a security code to be transmitted.
14. (Previously presented) A method according to claim 10, comprising:
identifying from the multi-position switch settings a modulation format at which a signal is to be transmitted.
15. (Previously presented) A method according to claim 10, comprising:
identifying from the multi-position settings a frequency at which a signal is to be transmitted.
16. (Previously presented) A method of operating a code learning apparatus having a plurality of signal configuration switches, comprising steps of:

- setting a combination of the configuration switches to define a code signal configuration including a code signal to be learned by the code learning apparatus;
- activating a learn mode of the code learning apparatus;
- reading the identified code signal configuration from the configuration switches during the learn mode; and
- storing the code signal configuration read from the configuration switches in a predetermined memory location.

17. (Previously presented) A method in accordance with claim 16, wherein the combination of the configuration switch settings comprises a security code.

18. (Previously presented) A method in accordance with claim 16, wherein the code signal configuration identifies a security code and a code format in which the signal is to be transmitted.

19. (Previously presented) A method in accordance with claim 16, wherein a code learning apparatus comprises a plurality of transmit switches, the method further comprising steps of:

- identifying one of the transmit switches; and
- storing a code signal configuration in a memory location associated with the identified transmit switch.

20. (Previously presented) A method in accordance with claim 19, wherein the learning apparatus comprises at least one transmitter, and the method comprises:

- identifying one of the transmit switches during a transmit mode;
- reading from the memory, the code signal configuration associated with the identified transmit switch; and
- transmitting a signal in accordance with the code signal configuration read from the memory.

21. (Previously presented) A method in accordance with claim 20, wherein the at least one transmitter is an RF transmitter, and the code signal configuration includes a type of transmitter, an RF frequency and a modulation format in which a signal is to be transmitted.

(9) Evidence Appendix

Not applicable.

(10) Related Proceeding Appendix

Not Applicable.

The Commissioner is hereby authorized to charge any additional fees which may be required in this application under 37 C.F.R. §§1.16-1.17 during its entire pendency, or credit any overpayment, to Deposit Account No. 06-1135. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1135.

Respectfully requested,

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